STATE OF MISSOURI ANNUAL RECYCLING REPORT FISCAL YEAR 2009



Acknowledgements

Published by the State of Missouri, Office of Administration, Division of Purchasing and Materials Management in consultation with the Department of Natural Resources' Solid Waste Management Program and the Environmental Improvement and Energy Resources Authority.

Special thanks to the Missouri Interagency Recycling Committee (MIRC), department recycling coordinators and purchasing staff who contributed to this report. The Missouri State Recycling Program also wants to thank all state employees for their ongoing efforts to reduce, reuse, recycle, and buy recycled-content products.

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Kelvin Simmons Commissioner

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To the Members of the General Assembly of the State of Missouri,

In accordance with RSMo 34.031, the Office of Administration in consultation with the Department of Natural Resources is submitting the Fiscal Year 2009 (FY09) Annual Recycling Report to summarize state government's accomplishments in the areas of recycling, waste reduction, and recycled content product procurement for the period of July 1, 2008 through June 30, 2009.

State law directs state agencies to implement policies for recycling, waste reduction, and procurement of recycled content products. The State Recycling Program, administered by the Office of Administration, Division of Purchasing and Materials Management, is responsible for assisting state agencies in these areas. The State Recycling Coordinator works cooperatively with the Missouri Interagency Recycling Committee (MIRC) to facilitate recycling and waste reduction by state employees.

The markets for recyclable materials started out strong in FY09, but then rapidly declined starting in October, 2009. Consequently there was a 53% decline in revenues deposited into the Recycling Fund as compared to FY08 proceeds. Despite this significant decline in revenues, FY09 marked the third highest annual income in the State Recycling Program's history as state agencies generated \$130,100 in revenue for the State Recycling Fund. (see section on Missouri's State Recycling Fund). State government recycling efforts continue to reduce the amount of waste generated at state facilities and the related costs of waste disposal. On pages 11 – 16 of this year's report the achievements of several agencies in the area of recycling and waste reduction are summarized.

We appreciate the support of the General Assembly in our recycling efforts.

Sincerely,

Kelvin L. Simmons

Commissioner of Administration

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I. Missouri State Recycling Program Structure

What is the Missouri State Recycling Program?

The Missouri State Recycling Program (MSRP) was established in 1989 when legislation added sections 34.031 and 34.032 to Chapter 34 of the MO Revised Statutes. The purpose of the MSRP is to assist State of Missouri government agencies with:

- Procurement of products manufactured with recycled materials.
- Coordinating waste reduction strategies.
- Overseeing the collection of recyclables by establishing recycling services contracts.

Who is the MSRP?

There are three components to the **MSRP's** organizational chart.

The **state recycling coordinator** is dedicated to the planning and administration of recycling and waste reduction activities.

The **Missouri Interagency Recycling Committee** serves an important purpose by providing input on recycling initiatives and communicating with state employees about various recycling programs.

The efforts of **state employees** to recycle ensures the success of any recycling initiative. State employees that recycle are considered a part of the **MSRP**.



What is the Missouri Interagency Recycling Committee?

The Missouri Interagency Recycling Committee (MIRC) was established in 1994. It was recognized the MSRP needed a way to communicate procurement and recycling policies throughout state government. MIRC is a vital component of the MSRP and meets quarterly to discuss issues dealing with recycling collection, waste reduction, recycling market conditions and recycled product procurement.

Who is MIRC?

The Recycling Committee is composed of representatives from various state departments (executive, judicial, and legislative). To learn more about recycling in your department, please contact your **MIRC** member. A list of members is located on page 6.

Missouri Interag	ency Recycling C	ommittee (N	MIRC) Members
Executive Departments	MIRC Member	Phone	Email
Office of Administration	Rob Didriksen	573.751.3384	Robert.Didriksen@oa.mo.gov
State Recycling Program	Recycling Coordinator		
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•	Cindy Norman	573.522.9746	Cindy.Norman@modot.mo.gov
Elected Officials			
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Office of the State Treasurer	Nancy Tennison	573.751.0912	Nancy.Tennison@treasurer.mo.gov
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0.00	Dawn Korsmeyer	573.751.7369	Dawn.Korsmeyer@courts.mo.gov
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House of Representatives	Brad Werner	573.751.4555	Brad.Werner@house.mo.gov
Senate	Jon Burton	573.751.2945	Jon.Burton@senate.mo.gov

II. FY09 Overview: Collection of Recyclables

Local Recycling Services Contracts

In FY09, the Missouri State Recycling Program (MSRP) provided contract administration for two local recycling services contracts. Areas covered by these contracts included Jefferson City and Kansas City. These contracts provided state agencies an option to recycle office paper and cardboard at no cost.

Jefferson City

In FY09, the Jefferson City contract continued to offer recycling services for mixed office paper, cardboard (baled & loose), and commingled beverage containers (aluminum cans, #1 & #2 plastic bottles).

The Jefferson City recycling services contract performed well in FY09 despite a significant drop in the recycling markets which started in November, 2008. Consequently revenues generated by the Jefferson City contract dropped 49% as compared to FY08. Despite this significant decline in revenues, FY09 marked the third highest annual income generated by this contract as state agencies generated \$72,910 in revenue for the State Recycling Fund.

At the start of FY09 there were eleven buildings set up for commingled beverage container recycling and by the end of FY09 the number of locations recycling cans and plastic bottles had doubled to twenty-two. State agencies recycled 10,626 lbs. of aluminum cans and 5,328 lbs.of plastic bottles in FY09.

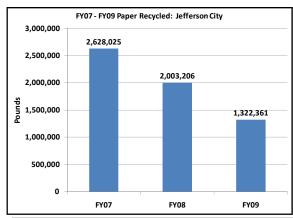
The contract also allowed for collection of loose cardboard. In FY09 ten new locations were added to the loose cardboard collection route — bringing the total number of state agency locations on this route to forty-eight.

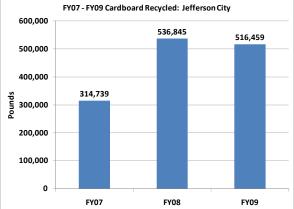
Total cardboard collected in FY09—both baled and loose—amounted to an estimated 516,459 lbs. This figure translates into an average of over 10,000 lbs. per week recycled by state employees. This figure includes over 117,000 lbs. of baled cardboard collected from the Truman Building and Highway Patrol warehouse.

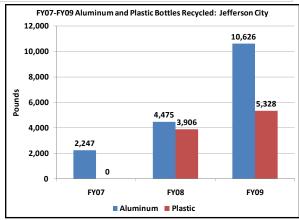
The subcontractor — Kingdom Projects (a sheltered workshop) — provided loose cardboard collection services and hauled commingled beverage containers to their recycling facility where cans and bottles were sorted for recycling.

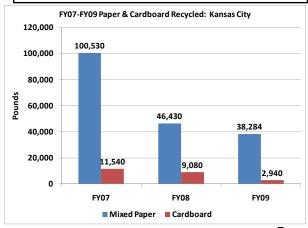
Kansas City

The Kansas City contract offered state agencies the option to recycle cardboard and mixed office paper at no cost. The amount of cardboard recycled plummeted 68% from FY08 to FY09. Mixed office paper recycling dropped 18% from amounts collected in FY08. It is likely the weak recycling markets that developed late in 2008 played a significant role in the decreased collection figures for state agencies in Kansas City.









Statewide Recycling Services

The Missouri State Recycling Program (MSRP) coordinated two <u>no-cost</u> statewide recycling services for state agencies in FY09. These convenient services allowed state employees to recycle inkjet cartridges or rechargeable batteries. In addition, the Office of Administration's Division of Purchasing and Materials Management administered two fee-based services for document destruction and lamp recycling.

Rechargeable Battery Recycling

FY09 marked the fifth year that this service has been available and state agencies recycled a total of 4,852 lbs. of rechargeable batteries. In the past five years, state government has recycled 22,704 lbs of rechargeable batteries. Three new locations were registered for rechargeable battery recycling in FY09 bringing the total number of statewide locations to eighty-seven.

Shredding & Records Disposal Contract

This contract provided state agencies throughout Missouri an opportunity to have confidential documents destroyed for a fee. Cost varied depending on volume to be destroyed and/or location of state agency. The chart to the right shows how many pounds were shredded by agencies utilizing this contract in FY09.

The total amount of paper shredded by state agencies in FY09 (954,115 lbs.) more than tripled from FY08 (302,676). This significant increase may be due higher usage of the state contract and better reporting from the contractors.

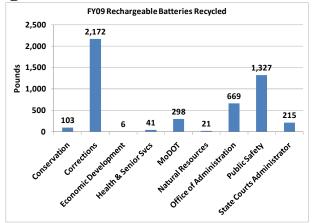
Lamp & Ballast Recycling Contract

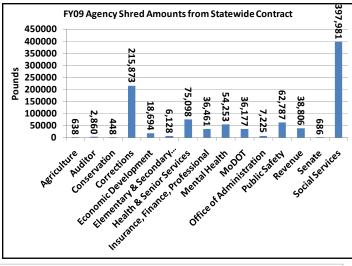
This contract provided a way for agencies to recycle both fluorescent and incandescent lighting as well as related lighting equipment (i.e., ballasts). Agencies were also able to recycle non-rechargeable batteries through this contract.

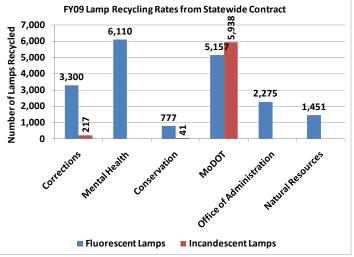
Inkjet Cartridge Recycling

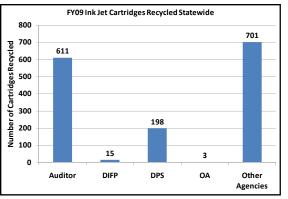
Although revenue generated in FY09 from the sale of ink jet cartridges remained about the same as FY08, the number of cartridges recycled nearly doubled from 819 (FY08) to 1,528 (FY09). The figures reflected in the chart to the right only account for agencies utilizing the State Recycling Program's ink jet collection service. The chart does not reflect cartridges returned to the manufacturer etc.

FY09 marked the first year that agency-specific recycling rates were available. In all previous fiscal years ink jet cartridge recycling rates were reported as a cumulative figure — meaning there was no break down by agency.









FY09 Department Reports of Materials Recycled

360
1,581 460 250
31,096
590 60 170,689
25,250 C C C C
ССС
177,416 41,845 7,225 65,787 533,
100 5.209
365 3.049 100
2,667
3,600 6,724 1,000
36,500
4,000
C
75 3,582 542
127 2
52
388 6,879
С
Na Re Of Ad
ental Health ental Health sources fice of lministration blic Safety

Note on Boxes with C's: A "C" in a box on this table indicates that an agency recycled the designated item by utilizing the Jefferson City recycling services contract.

Note on "Totals by Material": Totals for Aluminum, Cardboard, Mixed Office Paper, and Plastic include figures reported by recycling contractor. Totals for Carpet Tiles, Electronic Scrap, and Media include figures reported by Surplus Property. These figures are summarized in a table on p. 10 of this report. Agencies that utilized a recycling contract, but do not appear in this table include: House of Representatives, State Tax Commission, Department of Labor & Industrial Relations, Attorney General's Office, and Governor's Office.

FY09 Department Reports of Materials Recycled (cont.)

Contractual Reporting / Surplus Property Summary Information for Table on Page 9

Total pounds recycled by agencies utilizing the Jefferson City and Kansas City recycling services contracts are summarized in the table to the right. These figures are reported as cumulative totals due to contract reporting. Data is reported by building and it is not feasible to break out data by agency where there are multiple agencies in the same building.

Total pounds recycled by agencies utilizing State Surplus Property is summarized in the table to the right. For the past two years the State Recycling Program has been working with Surplus Property to measure surplus materials that are recycled.

FY09 Recycling Contract Totals

	Jefferson City	Kansas City
Paper	1,322,361	38,284
Cardboard	516,459	2,940
Aluminum	10,626	n/a
Plastic	5,328	n/a

FY09 Surplus Property Totals

Carpet Tiles	15,500
Electronic Scrap	13,440
Media, Storage	962

Number of Items and Gallons Recycled Table

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Number of Items Recycled	Books, Bound Publications	Cell Phones	Fluorescent Lamps	Incande scent Lamps	Inkjet & Toner Cartridges	Fuel/Oil Filters	Pallets	Tyvek Envelopes	Numl	oer of	Gallo	ns Rec	ycled
Insurance, Financial Inst., Prof. Reg.					183				Antifreeze	Diesel	Oil, Cooking	Oil, Motor	Paint
Auditor's Office					630								
Elementary & Secondary Education					28							_	
Agriculture					1	55						165	
Conservation	300	111	777	41			59					1,500	
Corrections		148	3,800	217	2,293	435	2,544		200	15	19,700	2,649	
Economic Development		4			12								
Health & Senior Services		40			101								
Attorney General					58								
Lottery							1,200						
Mental Health		35	6,110		713	52	285				634	1,146	
Natural Resources	45	19	1,918		452			200				49	
Office of Administration		80	2,275		9		976						
Public Safety		3	2,360		431	4,547	1,045				311	22,701	
Revenue					5								
Social Services			1		295								
Transportation		640	5,157	5,938	549		1,775		1,925			39,364	157
TOTALS	345	1,080	22,398	6,196	6,461	5,089	7,884	200	2,125	15	20,645	67,574	157

Note on Total for Ink Jet & Toner Cartridges: 701 ink jet cartridges were recycled by employees using a statewide service for this item.

Missouri State Recycling Program Annual Awards

Each year the State Recycling Program accepts nominations for the Annual Recycling Award. Employees, departments, or agencies are eligible to be nominated for outstanding contributions made in the areas of recycling collection, waste reduction, and/or recycled content procurement. Members of the Missouri Interagency Recycling Committee review the nominations and then vote for an individual and an agency.

Awards are made based on accomplishments in the areas of recycling collection, waste reduction, and/or procurement of recycled-content products. The State Recycling Program encourages nominators to submit information that demonstrates the *value* of the nominee's recycling efforts. *Value* could include costs avoided, revenue generated, ongoing leadership/commitment/passion/enthusiasm, environmental benefits, etc.

FY09 Annual Recycling Awards

Individual Award: Tracy Allen, Dept. of Elementary & Secondary Education, Missouri Schools for the Severely Disabled

Tracy Allen is the home school coordinator for three of Missouri's Schools for the Severely Disabled. She began recycling initiatives at College View (Joplin), Oakview (Monett), and Cedar Ridge (Nevada) schools three years ago.

Tracy's nominator said, "Her dedication to recycling has rapidly spread to staff members at these schools. Not only is she a recycling advocate for the schools, but she has encouraged us by making it convenient to do this." One of the results of Tracy's efforts has been to develop a comprehensive paper recycling program.



L. to R. Rachel Dietzel, Darlene Baugher, Kennedy Allen, Tracy Allen, Governor Nixon, Jim Kennedy, Charlie Taylor, Janet Fitzwater

In the upcoming year Tracy plans to include recycling as a part of her lesson plan with many of her students by teaching them to sort and identify different textures. Her nominator said, "... this assistance with the recycling project will be an authentic and functional activity for them."

Agency Award: Northeast Correctional Center

Northeast Correctional Center (NECC) initiated a recycling program in 1999 that started with collection of cardboard and steel cans. By 2009 NECC had expanded their recycling program to include plastic bottles, mixed paper, newspaper, scrap steel, aluminum cans, radio batteries, and cell phones. The growth of NECC's recycling programs has resulted in a significant cost savings on waste hauling costs. In FY01 NECC spent \$90,470 on waste removal and in FY09 \$14,820 was spent for trash removal even though the per unit cost had increased. The cumulative savings during this eight year period is in excess of \$600,000.



L. to R. George Lombardi, David Mittag, Jim Moore, Don Perkins, Tom Dunn, Governor Nixon, Lou Gripka, Judy Crocker, Dan Spegal, Chris Hesse, John Hequembourg, Dean Boulware

NECC Annual Recycling Stats

- Steel Cans: 75,244 lbs.
- Plastic Bottles: 17,360 lbs.
- Mixed Paper: 17,899 lbs.
- Cardboard: 110, 615 lbs.
- Newspaper: 6,870 lbs.
- Aluminum Cans: 2,480 lbs.
- Scrap Steel: 25,760 lbs.
- Rechargeable Batteries: 73 lbs.
- Fluorescent Lamps: 2,025
- Incandescent Lamps: 217

In addition to recycling, NECC has engaged in a major reuse effort. NECC has purchased equipment from Surplus Property and created storage and transport vessels for their food waste composting operation. They also purchase office equipment from Surplus Property and refurbish it for use at the prison. When worn out, NECC uses clothing and sheets as cleaning rags.

FY09 Annual Recycling Awards Honorable Mention

The FY09 Annual Award nomination process was initiated in July, 2009. A record number of nominations were received for the FY09 award which made the selection process more competitive. The State Recycling Program thanks those who took the time to make a nomination and at the same time wants to recognize the patience, passion, and persistence that the nominees have exercised with their efforts to reduce, reuse, and recycled state government waste.

Individual Honorable Mentions

- Elizabeth Retherford (DNR)
- Judy Crocker (DOC)
- James Gross (DNR)
- Paul McConnell (DNR)
- John Mier (DSS)
- Ramona Huckstep (DNR)

State Agency Honorable Mentions

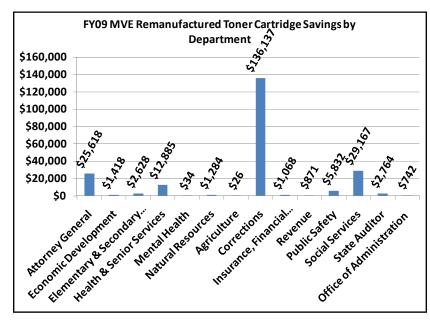
- Environmental Emergency Response (DNR)
- Elm Street Recycling Team (DNR)
- Missouri Vocational Enterprises (DOC)
- Shay Erismann & Elizabeth Retherford (DNR)
- Ozark Correctional Center (DOC)

II. FY09 Overview: State Agency Waste Reduction / Recycling Accomplishments

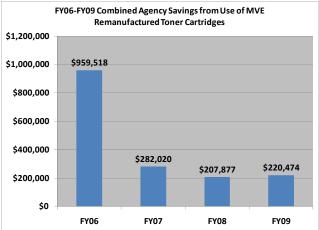
Remanufactured Toner Cartridges: State Agency Savings

For over 10 years Missouri Vocational Enterprises has offered a toner cartridge remanufacturing service for state agencies. This service has provided state agencies an opportunity to realize significant savings and reduce waste by reusing toner cartridges.

The charts below illustrate individual agency savings in FY09 and combined agency savings over the past four years. Savings are estimated by calculating the difference in price between MVE toner cartridges and non-recycled toner cartridges available from the office supplies contract. From FY06 -



FY09 state agencies saved over \$1.6 million dollars by utilizing MVE's toner cartridge remanufacturing service.



Conservation Department Builds Environmentally Friendly Building

The new Northeast Regional Office in Kirksville was designed to be environmentally friendly. It is efficient to operate and own and has a reduced impact on the environment. Many products used in this project were produced using post-industrial and post-consumer recycled materials. These include the carpet, roof metal, ingredients in the concrete, toilet partitions, raised floor system, etc. The use of these products helped reduce the waste that goes into landfills and supported markets for recyclable materials.

The wall system uses a structural insulated panel system or SIPS. These manufactured panels have a high R value and provide structural support for the building. The building frame is a parallel strand lumber or PSL product that uses approximately 95% of a tree in the process, compared to conventional lumber production that uses 70% of the tree.



Energy efficiency has been achieved through the use of many systems. The systems used in this facility are day-lighting, ground source heat pump system, motion sensors for artificial lighting and the heating and cooling system. The Northeast Regional has an energy use of 47,850 BTU/ft² or \$0.88/ft². This is less than one half the energy used at other Conservation Department facilities.

State Agency Recycling Efforts Avoid Cost of Waste Disposal

The efforts of agencies statewide resulted in a combined total of **7,480** tons (see chart on p. 9) of materials recycled in FY09. If this amount of material had been sent to landfills it is estimated the State of Missouri would have paid at least **\$317,900** in waste disposal costs. It is possible to calculate this cost avoidance based on the average tipping fee charged to waste haulers in Missouri. Tipping fees are paid by waste haulers for each ton of trash disposed in Missouri's landfills. The average tipping fee in Missouri in FY09 was \$42.50 per ton.

The tipping fee is only one cost of doing business as a waste hauler. In addition to the tipping fee, a waste hauler includes labor and transportation costs in the actual amount charged to its customers. Therefore, utilizing the average tipping fee to calculate cost avoidance represents a conservative estimate. The actual cost avoidance realized by state agencies in FY09 would likely be much higher.

2009 State Fair Recycling Results

The 2009 Missouri State Fair expanded year two of its recycling program to better handle the plastic, aluminum and cardboard waste generated by visitors as well as concessionaires and exhibitors to the event August 13 to 23 in Sedalia. Improvements to the program resulted in a significantly more impactful green initiative with 9.23 tons, or over 18,000 pounds of recyclable materials processed during this year's Fair compared to just under 1,000 pounds last year.

Fair Director Mark Wolfe said major contributing factors to the success were the increased number and placement of bins going from a quantity of 50 last year to a total of 390 in 2009 covering more of the grounds.

Anheuser Busch Recycling/County Distributing Co., Inc., provided 40 of the bins and 350 came from the Missouri Department of Natural Resources (DNR) working with Waste Corporation (WCA). In addition, two compactors were donated to the Fair this year by the DNR's Solid Waste Management Program working with WCA. One compactor was used to process the contents of beverage container recycling bins and the other one was used for compacting collected cardboard.

"The Fair was able to enlarge its recycling program because of the support of sponsors," Wolfe said. "The additional collection efforts certainly proved to be a positive move. The green colored bins were easily identifiable making it convenient for the 337,851 visitors to dispose of plastic and aluminum beverage containers."

The breakdown of recycled waste in tons was 6.87 cardboard, .64 plastic, .27 aluminum, and 1.33 newspapers, for a total of 9.23 tons recycled.

Additional sponsors involved in the initiative included Pioneer Trails West Central Missouri Solid Waste Management District (Region F) assisting in funding the labor associated with collections along with Johnson County Sheltered Workshop, who processed the material, and the State of Missouri Department of Administra-

tion, who supplied the bags. Several people representing the Missouri Recycling Association assisted with bin placement and cardboard collection during Fair setup and teardown.

Cynthia Mitchell, Director of Social Ventures Midwest Assistance Program, Inc. (a Minnesota based nonprofit corporation) said, "Last year we were able to start small with a pilot program of beverage containers. This year, with the increased amount of beverage container bins and the addition of the cardboard recycling, a much larger impact was made."

Mitchell said there are still some strides to be made in the project noting that much more cardboard could have been collected from vendors and concessionaires. "Cardboard recycling is an area that can be focused on in future years to make a bigger impact," she said, "perhaps with more vendor and exhibitor notification and by identifying cardboard holding locations adjacent to the trash dumpsters."



Mitchell said that all of the products recycled at the State Fair would lose their useful life if put in the landfill rather than sent to the recycling processor. She said that recycling materials saves natural resources, uses less energy than using virgin materials and creates jobs. To illustrate, she said that one ton of recycled paper uses 64 percent less energy, 50 percent less water, produces 74 percent less air pollution and creates 5 times more jobs than one ton of paper products from virgin wood pulp.

Pioneer Trails West Central Solid Waste

Management District plans to assist with coordination of the recycling program for the Missouri State Fair in 2010. The 11 day event is held annually in Sedalia with 2010 dates set for August 12 to 22. More information on the annual event can be viewed online at www.mostatefair.com.

2009 RecycleMania: Colleges & Universities Compete

RecycleMania is a competition among colleges and universities in the United States that provides schools with a fun, proactive opportunity to increase awareness about waste prevention and recycling on their campus. Over a 10-week period, schools compete in different contests to see which institution can collect the largest amount of recyclables per capita; the largest amount of total recyclables; the least amount of trash per capita; or have the highest recycling rate. Participating schools are required to report measurements on a weekly basis throughout the competition.

With over two-hundred colleges and universities competing in RecycleMania contests in 2009, **Missouri schools** (see standings below) performed very well in various competitions with Stephens College and Truman State University consistently placing in the top 10 of various competitions. Ten schools in Missouri competed this year, including Missouri State University (Springfield), Northwest Missouri State University (Maryville), Stephens College (Columbia), Truman State University (Kirksville), University of Central Missouri (Warrensburg), University of Missouri—Columbia, University of Missouri—Kansas City, Park University (Parkville), Missouri University of Science & Technology (Rolla), and Washington University (St. Louis).

RecycleMania is supported by the U.S. Environmental Protection Agency's Wastewise Program and the National Recycling Coalition (NRC), and is coordinated as a project of NRC's College and University Recycling Council. The Coca-Cola Company is a major sponsor of RecycleMania.

2009 RecycleMania Standings

Paper Recycling
1st Place-Stephens College
7th Place-Truman State University
24th Place-Washington University

Bottles and Cans Recycling
15th Place—Stephens College
17th Place-Truman State University

Per Capita Classic
4th Place-Stephens College
8th Place-Truman State University

Cardboard Recycling
8th Place-Truman State University
9th Place-Stephens College

Gorilla Prize 13th Place- University of Missouri-Columbia



In ten weeks RecycleMania schools in Missouri recycled 1,457,044 pounds of materials. Recovery of these materials prevented the release of pollution equivalent to the annual emissions of 1,287 passenger cars or electricity use of 975 homes.

Governor Jay Nixon presented each of the 2009 RecycleMania participants certificates of recognition for their outstanding contributions to environmental stewardship at a ceremony held at the Capitol.

The picture to the left shows the University of Central Missouri (Warrensburg) presenting Governor Nixon with a recycling container for aluminum cans and plastic bottles.

For additional information about this national competition see **www.recyclemaniacs.org**

Department of Natural Resources Builds State's Composting Infrastructure

Since 1997, the Missouri Department of Natural Resources (DNR) has helped to fund in-vessel composting at a south-west Missouri high school, a mid-Missouri college and three state correctional facilities. Since 1992, yard waste has been banned from Missouri landfills. Composting helps reduce the amount of material going into landfills and the end result is a useable product requiring very little effort to produce. Materials that can be easily composted include vegetable and fruit scraps, lawn and house plant clippings, flowers and most weeds. Dry grass and leaves, straw, paper products, bread, pasta, rice, and cardboard can also be used in composting. Compost, when added to your soil, helps to improve soil health, keeps the soil surface cool and increases water retention. When used as a soil amendment, compost provides organic nutrients. These nutrients can eliminate the need for chemical fertilizers in some applications. Compost can also be an effective weed barrier when used as a top dressing or mulch.

Reeds Springs High School, located near the popular tourist town of Branson, started a composting project in 2000. The project includes a no-discharge in-vessel organic composting system for cafeteria food waste, paper, grass, leaves, wood chips and other organic materials generated at schools within the Reeds Spring School District. The high school processes and stores finished compost at the high school campus, and diverts approximately 100 tons of organic waste during each nine-month school year. DNR, through its former Project Grant Program, granted the school district \$100,000 for the \$137,000 project. Besides allowing students to learn about composting, the school has also created a recycling program for aluminum and cardboard.

Lincoln University in Jefferson City began composting in 2004. An in-vessel composting program created on the Busby farm is part of the Lincoln campus. Funds from DNR have been used for starting up the program, as well as educational outreach and public programs about composting for the community. It is estimated the university's cafeteria system provides up to three tons of food waste per week for composting.

In the past decade, DNR has also approved grant funds for three correctional institutions including Ozark Correctional Center (Fordland), South Central Correctional Center (Licking), and the Northeast Correctional Center (Bowling Green). Each facility was given \$125,000 to implement an in-vessel composting program on the institution property in order to compost food and yard waste. Each facility estimates diversion of 100 to 150 tons of waste each year. This project also allows correctional inmates an opportunity to learn about composting and gain new marketable skills during their incarceration.

Missouri's twenty solid waste management districts continue to consider solid waste grant applications, and hope to approve more composting projects in the future.

Office of Administration Recycles Carpet Tiles

In FY09, the State of Missouri was able to easily recycle carpet tile waste from remodeling projects at no cost due to the "Carpet America Recovery Effort" (CARE) that was initiated in 2002. "CARE is a joint industry-government effort to increase the amount of recycling and reuse of post-consumer carpet and reduce the amount

of waste carpet going to landfills." (www.carpetrecovery.org)
The mission of CARE is to develop market based solutions for the recycling and reuse of post-consumer carpet. The Office of Administration worked with Interface FLOR Inc. – a CARE member - to have carpet tiles picked up for recycling.

The Office of Administration (OA) recycled approximately 4,000 pounds (six pallets) of carpet tiles in FY09. This is equivalent to 600 square yards of carpeting. Over the past two years OA has recycled 10,000 lbs (1,500 square yards) of carpet tiles. The box below provides an estimate of the environmental savings from recycling this amount of carpet.

Carpet diverted from the landfill is used as a recycled material in a variety of products such as new carpet and automobile parts.



Estimated Environmental Savings from Carpet Recycling

660 gallons of oil

15,000,000 BTUs

Source: www.carpetrecovery.org

FY09 Overview: Recycled Content Procurement

Recycling Program Guidelines for Buying Recycled

The State Recycling Program works with agencies to increase procurement of products containing recycled content. This is commonly referred to as "closing the loop". Recycling can only be successful if products produced from recyclable materials are then purchased. The State Recycling Program has adopted the Environmental Protection Agency's (EPA) "Comprehensive Procurement Guidelines (CPG)" for recycled content products as a roadmap for the State of Missouri to continue working towards "closing the loop".

Evaluation Criteria for Products Listed Under CPG:

- Availability of product
- Impact of procurement on the solid waste stream
- Economic and technological feasibility of producing the product
- Other uses of the recovered materials used to produce the product

There are 8 categories designated in the CPG. Product categories and individual items in these categories are listed below **Products identified by the recycling symbol** 3 also appear in the Missouri Recycled Products Directory published

by the Environmental Improvement and Resources Authority's Market Development Program. This publication is a good resource for locating recycled products manufactured and distributed in Missouri. Additional information about this directory may be found in the "Recycling Resources" section on p. 21 of this report.

Product Fact Sheets may be found for each of these categories on the internet at the following address: http://www.epa.gov/epaoswer/non-hw/procure/factshts.htm

Comprehensive Procurement Guidelines: Recycled Product Categories

1. Construction Products

- Building Insulation
- Carpet (polyester)
- Carpet Cushion
- Laminated Paperboard
- Cement & Concrete Containing
 - o Coal fly ash
 - Furnace slag
 - Ground granulated blast
 - Cenospheres
 - Silica fume
- Consolidated & Reprocessed Latex Paint
- Floor Tiles
- Flowable Fill
- Modular Threshold Ramps
- Nonpressure Pipe
- Patio Blocks
- Railroad Grade Crossing Surfaces
- Carriage Roofing Materials
- Shower & Restroom
 Dividers/Partitions
- Structural Fiberboard

2. Landscaping Products

- Compost Made from Yard Trimmings or Food Waste
- Garden & Soaker Hoses
- Hydraulic Mulch
- Lawn & Garden Edging
- O Plastic Lumber Landscaping Timbers & Posts

3. Park & Recreation Products

- Park Benches & Picnic Tables
- Plastic Fencing
- Playground Equipment
- Playground Surfaces
- Running Tracks

4. Paper Products

- Commercial/Industrial Sanitary Tissue (paper towels & toilet paper)
 - Miscellaneous Papers
- Newsprint
- Paperboard & Packaging Products
 - Printing & Writing Papers

7. Transportation Products

Retread Tires

Channelizers

6. Vehicular Products

Engine Coolants

Rebuilt Vehicular Parts

Re-Refined Lubricating

- Delineators
- Flexible Delineators
- Parking Stops
- Traffic Barricades
- Traffic Cones

5. Nonpaper Office Products

- Binders, Clipboards, File Folders, Clip Portfolios, & Presentation Folders
- Office Furniture
- Office Recycling Containers
- Office Waste Receptacles
- Plastic Desktop Accessories
- Plastic Envelopes
- Plastic Trashbags
- Printer Ribbons
- Toner Cartridges

8. Miscellaneous Products

- Awards & Plaques
- Bike Racks
- Blasting Grit
- Industrial Drums
- Manual-Grade Strapping
- Mats
- Pallets
 - Signage
- Sorbents

State Agencies Close the Loop with Paper Procurement

Paper is the most common recycled product purchased by state agencies. In 1990, RSMo 34.032 established attainment goals for state agencies to purchase certain percentages of products made from post-consumer recovered materials. One goal was that 60% of paper products purchased by the State of Missouri contain post-consumer materials by the year 2000. This goal was barely missed in FY09 as 56% of the overall paper purchased contained recycled content.

FY09 1	Purchases of	Recycled P	aper Compare	d to Vir	gin Pap	er
Product Category	Recycled Paper Purchases	Total Category Purchases (Recycled + Virgin)	Recycled Paper Purchases as a % of Total Purchases in Product Category	as a % (d Paper Po of Total Po oduct Cate	ırchases
	FY09	FY09	FY09	FY08	FY07	FY06
Fine Paper Products (office, copy,fax)	\$1,426,264	\$3,294,189	43%	36%	36%	57%
Course Paper Products (napkins, towels, tissues)	\$2,038,380	\$2,162,202	94%	83%	63%	96%
Forms (continuous & snap out)	\$259,529	\$274,458	95%	95%	60%	23%
Envelopes (Plain or Printed)	\$498,240	\$650,897	77%	70%	68%	87%
Printing by contractors (40% of total charge is attributable to paper - figures appearing in this row represent paper cost only)	\$798,159	\$2,532,271	32%	29%	22%	50%
Overall Totals	\$5,020,572	\$8,914,017	56%	54%	45%	62%

Environmental Benefits of Buying Recycled Paper

The State of MO spent \$1,426,624 on recycled "Fine Paper Products" in FY09. A majority of this paper is printer/copier paper made with 30% post-consumer recycled paper. Purchasing this type of recycled paper versus virgin paper translates into the following estimated savings:

- 9,514 trees
- 2,775,045 gallons of water
- 23,786 lbs. of air pollution
- 1,625,383 kw/hours of electricity
- 5.5 billion Btu enough energy to power 53 homes in Missouri for a year!

Source: www.recycledproducts.org/calculator.html

FY09 Department Reports for Recycled Content Product Procurement

\$33,105,245	Recycled-Content Products in FY09.	ıt Produc	l-Conter		Total Dollars Spent on	Dollar	Total											
\$33,729								8,500					25,229				- e	Vehicle Maintenance Supplies
\$152,883	152,633						250											Tires, Retread
\$662,086	661,736				350												-	Signs, Refurbished Aluminum
\$15,300	15,300																	Re-refined Oil
\$25,595	15,300												10,295					Remanufactured Office Equipment
\$211,787													MVE 211,787					Remanufactured Furniture
\$43,415					42,825	341	249											Promotional Items
\$114,876						6	114,876										S	Playground Supplies
\$528,903					3 236,033	5,048	8 5,552	10,768					779	8 39	7,388			Office Supplies
\$16,232							2	16,232										Nursery Supplies
\$10,195,604	7,565,143			1,833,087	128,558	4,080	3,134	0	1 7,000	1,514	366		53,584					Metal Products
\$829,258	1,480				1,152 370,109		8,664	17,641	9 52	8 11,759	13,468		165,647				92	Janitorial Supplies
\$256,237	2,800	26,847		360	4,355	1,564	5 2,956	9,265	525	12,532	3,149	1,179	161,528	70	14	26,364 2,744	26,3	Ink & Toner Cartridges
\$3,889,828	3,889,828																	Glass Beads
\$187,576	841		34,400		300	2,653	3	2,753										Cardboard Boxes
\$108,184	104,820												3,364					Building- Construction
\$21,199	17,000				3,672		300						227					Batteries- Rechargeable
\$15,807,250	15,807,250																	Asphalt Products
\$5,303	5,165												138					Antifreeze
TOTALS	Transportation	Social Services	Secretary of State	Revenue	Public Safety	Office of Administration	Natural Resources	Mental Health	Insurance, Financial Inst., Prof. Reg.	Health & Senior Services	Elementary & Secondary Education	Economic Development	Corrections	Agriculture	Treasurer's Office	Auditor's Office	Attorney General	Non-Paper Recycled Content Procurement (All Figures Reported in

Note on Office Supplies: The total appearing for Office Supply Products includes agency purchases of \$263,297. This information was supplied by the contractor.

Note on MVE reported figure for Remanufactured Furniture: The total appearing under MVE for remanufactured furniture represents cumulative agency purchases of this product.

Notes on cardboard boxes, janitorial supplies, and metal products: Totals for each of these products includes cumulative agency purchases provided by MVE minus agency reported purchases of these MVE products. MVE reported purchases of these products includes: cardboard boxes = \$146,629; janitorial supplies (plastic bags) = \$669,893; metal products = \$982,491

See p. 22 for additional information on recycled content products provided by MVE

II. FY09 Overview: Missouri's State Recycling Fund

Missouri's State Recycling Fund was established by RSMo 34.032 which states that "Proceeds from the sale of recycled materials may be used to offset costs of the recycling program."

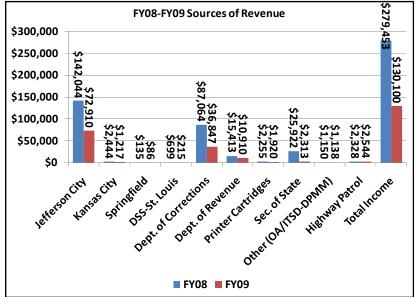
The chart to the right shows a 53% decline in revenues from FY08 to FY09. This was due to a significant weakening in the recyclables markets that occurred in the Fall of 2008. Even with this major decline in the recycling markets, FY09 marked the third highest generation of revenues in the State Recycling Program's history.

In FY09, the MSRP distributed nearly 4,500 plastic bags to state agencies. A majority of these were used to collect aluminum cans and plastic bottles with a smaller percentage used for shredded mixed office paper. In addition, over 600 recycling containers were provided to state agencies in FY09. A majority of these are being used for mixed office paper and the balance of containers is used for aluminum can and plastic bottle recycling. Other significant purchases made with monies from the State Recycling Fund included a baler for the prison in Bonne Terre (ERDCC): cardboard dumpsters for MoDOT and Department of Agriculture; containers for the Department of Revenue's paper recycling program; baler supplies; and maintenance for in-vessel composters located at Ozark Correctional Center

The top three sources of revenue in FY09 were the Jefferson City recycling contract (56%), Department of Corrections (28%), and Department

and South Central Correctional Center.

Recycling Fund Summary: Fiscal Year 2006 - 2009 \$300,000 \$279.453 \$250,000 \$200,000 \$164,288 \$150,000 \$130,100 \$119,598 \$100,000 \$48,038 \$50,000 \$0 FY06 **FY07** FY08 FY09 ■ Revenues ■ Program Costs

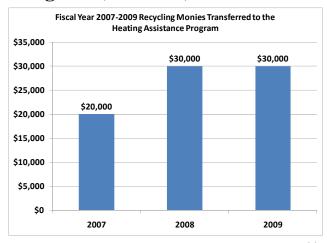


of Revenue (8%). (see chart above, right) The Department of Corrections (DOC) spends a significant amount of recycling funds on consumable products such as plastic bags and baling wire for securing bales of recyclable materials. This is due to the high volume of materials that DOC generates and recycles.

Contributions to the Heating Assistance Program (Utilicare)

Excess revenues from the sale of recyclable materials are transferred to the Heating Assistance Program managed by the Department of Social Services pursuant to RSMo 34.032. The Heating Assistance Program (HAP) - also known as Utilicare - provides financial assistance to low-income Missourians for heating their homes during winter months. The MSRP has transferred a total of \$245,000 to the HAP since 1995.

As a result of state employee recycling efforts, the MSRP was able to make a \$30,000 contribution to the HAP in FY09. The \$30,000 transferred to the HAP in FY09 will help approximately 150 households in Missouri to pay their heating bills.



III. State Recycling Program Goals

FY09 Goals

Goal: Continue working with State Surplus Property to formalize use of the Purchasing Committee listserv as a tool to facilitate disposal of surplus property. A key outcome will be the publication of a flow chart describing the surplus property process and in particular how the listserv fits into this process.

Result: There was noticeable increase in use of the Purchasing Committee listserv as a tool for disposal of surplus property. The listserv functions as a simple way for agencies to dispose of property between departments—a type of inter-department exchange. The variety of items advertised on the listserv also multiplied in FY09. Prior to FY09 the listserv was used mainly to find agencies that needed 3-ring binders. Items advertised on the listserv expanded to include metal shelving, cubicle partitions, bubble wrap, burlap bags, printer cartridges, and foam pads. Many of these items would have been thrown away, but agencies that utilized the listserv were able to divert these materials from the landfill and help other state agencies avoid the cost of purchasing these items new. A flow chart describing the surplus property process is still pending publication.

Goal: Work with the Environmental Improvement and Energy Resources Authority's Market Development Program and the Department of Economic Development to educate state agencies about buying recycled. Key education components will include cost savings on products as well as the economic and environmental impacts of buying recycled products. Target audiences will include the State Purchasing Committee and attendees of procurement conferences.

Result: The State Recycling Program provided numerous presentations about recycling and in particular the importance of buying recycled in FY09. Presentations were made to business managers from the Department of Corrections (annual meeting); MO Association of Public Purchasing Fall Conference; Conservation and Natural Resources "Grow Native" Annual Conference; Senate Staff orientation; Recycling Awareness Day event at the Capitol; and a Health & Senior Services lunch and learn program.

Topics discussed included the importance of buying recycled products to support domestic recycling markets; environmental benefits of buying recycled (energy and natural resource savings); and best management practices with document destruction. The environmental and economic benefits of rechargeable batteries versus single-use batteries and hand dryers versus paper towels were also discussed with these groups in FY09.

FY10 Goal

Work with the Missouri Interagency Recycling Committee (MIRC) to develop and implement strategies for increasing the collection of mixed office paper in Jefferson City. Mixed office paper is the most valuable commodity in a state office building's waste stream. Value derived from mixed office paper collections helps to sustain state agency recycling initiatives throughout Missouri.

IV. Recycling Resources

Missouri Department of Natural Resources Solid Waste Management Program

Internet: http://www.dnr.mo.gov/env/swmp/index.html

Email: swmp@dnr.mo.gov

Phone: 800-361-4827 or 573-751-5401

The Solid Waste Management Program (SWMP) works with citizens, businesses, industry, and government to continue increasing material reuse and recycling. The SWMP web page is an excellent resource for information dealing with all aspects of solid waste management in Missouri.

Office of Administration

Division of Purchasing & Materials Management

Missouri State Recycling Program

Internet: http://www.oa.mo.gov/purch/recypro.html

Email: recycling@oa.mo.gov

Phone: 573-751-2387

The Missouri State Recycling Program (MSRP) works with state agencies to increase purchases of recycled content products, reduce their waste stream and increase collection of materials for recycling. The MSRP web page is a good resource for state contracts that offer recycled content products as well as recycling services.

Missouri Department of Natural Resources

Environmental Improvement and Energy Resources Authority / Market Development Program

Internet: http://www.dnr.mo.gov/eiera/mo-market-dev-program.htm

Email: eiera@dnr.mo.gov Phone: 573-751-4919

The **Missouri Recycled Products Directory** is published by the Market Development Program. An excellent resource for finding Missouri based businesses that manufacture or distribute recycled-content products. The directory is available online at http://www.dnr.mo.gov/eiera/2008RecycledProductsDirectory.doc

Missouri Department of Corrections

Missouri Vocational Enterprises (MVE) Internet: http://www.doc.missouri.gov/mve Phone: 800-392-8486 or 573-751-6663

The Department of Corrections vocational training program offers the following products and services that meet "buy recycled" criteria. MVE products and services are only available to state agencies and other tax-supported entities.

MVE Recycling/Remanufacturing/ Refurbishing Services

- Tire Recycling Service 573-635-3825
- Toner Cartridge Refill Service 573-751-3224 ext. 1260
- Office Panel (cubicle) Refurbishing Service 573-751-6663 or 800-392-8486

MVE Recycled-Content Products

- Cardboard boxes: 60% post-consumer content
- Plastic bags: 30% recycled material
- Metal products: 25–35% post-consumer content
- Toilet paper: 60% recycled material
- Envelopes: 30% post-consumer content